

AMENDMENTS TO THE CLAIMS

1. (currently amended) A non-naturally-occurring protein comprising a modified plant zinc finger protein (ZFP), wherein the zinc finger protein is engineered to bind ~~that binds~~ to a target sequence.
2. (previously presented) The isolated polynucleotide of claim 17, wherein the target sequence is a nucleic acid sequence.
3. (previously presented) The isolated polynucleotide of claim 2, wherein the nucleic acid is DNA.
4. (previously presented) The isolated polynucleotide of claim 2, wherein the target sequence is 3 or more contiguous nucleotides.
5. (previously presented) The isolated polynucleotide of claim 2, wherein the protein encoded by the polynucleotide comprises a tandem array of zinc fingers.
6. (previously presented) The isolated polynucleotide of claim 5, wherein one or more of the zinc fingers of the ZFP are obtained by rational design.
7. (previously presented) The isolated polynucleotide of claim 5, wherein one or more of the zinc fingers of the ZFP are obtained by selection.
8. (previously presented) The isolated polynucleotide of claim 7, wherein selection is phage display, interaction trap, ribosome display or RNA-peptide fusion.
9. (previously presented) The isolated polynucleotide of claim 5, wherein one or more of the zinc fingers comprise canonical C₂H₂ zinc fingers.
10. (previously presented) The isolated polynucleotide of claim 5, wherein one or more of the zinc fingers comprise non-canonical zinc fingers.

11. (previously presented) The isolated polynucleotide of claim 5, wherein one or more of the zinc fingers are derived from two or more plant species.

12. (currently amended) The isolated polynucleotide of claim 5, wherein one or more amino acid residues of the protein encoded by the polynucleotide are deleted or substituted as compared to a naturally occurring plant ZFP.

13. (previously presented) The isolated polynucleotide of claim 12, wherein one or more amino acid residues are deleted between one or more of the zinc fingers.

14. (previously presented) The isolated polynucleotide of claim 17 further encoding a functional domain.

15. (previously presented) The isolated polynucleotide of claim 14, wherein the functional domain is a repressive domain.

16. (previously presented) The isolated polynucleotide of claim 14, wherein the functional domain is an activation domain.

17. (currently amended) An isolated polynucleotide encoding a modified plant zinc finger protein according to claim 1 ~~that binds to a target sequence~~.

18. (original) An expression vector comprising the isolated polynucleotide of claim 17.

19. (original) A host cell comprising the isolated polynucleotide of claim 17.

20. (canceled).